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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,361	12/04/2003	Giuseppe Esposito Corcione	02NP24153416	6377

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EXAMINER

SWENSON, BRIAN L

ART UNIT PAPER NUMBER

3618

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,361

Applicant(s)

ESPOSITO CORCIONE ET AL.

Examiner

Brian Swenson

Art Unit

3618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Acknowledgement is made of the Preliminary Amendment filed on 4 December 2003 where:

- a. Claims 1-5 have been cancelled and claims 6-25 added.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,600,1941 issued to Yang in view of U.S. Patent No. 6,158,543 issued to Matsuto et al., and in further view of U.S. Patent No. 6,196,347 issued to Chao et al.

Yang teaches in Figures 1-5 and respective portions of the specification of: a hub mounted drive unit including an electric motor (Figure 1); a drive wheel (not shown, inherently mounted to wheel frame 1; Figure 1) associated with the electric motor having a hub (taken to be the area within element 11); an axle (5) extending into the hub of the drive wheel (Figure 1); a battery is inherently provided for providing power to motor via power supply cable (41); a magnetic element (2 and 22; taken to be ferrous material) that forms a stator; a rotor (3) mounted adjacent the stator (see Figures 1 and 2).

Yang only shows the details for the hub mounted motor and does not show a vehicle body and does not teach an engine in combination with the motor.

Matsuto et al. teach in Figures 1-8 and respective portions of the specification of a well-known motorcycle body and teach that it is known to provide both an engine in combination with a motor (see at least "Technical Field" Col. 1). Motorcycles powered by a single internal combustion engine are notoriously well-known in the vehicle art. Matsuto et al. shows a storage compartment for placement of a battery pack (2).

It would have been obvious to one having ordinary skill in the art at the time of invention to use the front wheel hub-mounted motor, as taught by Yang, on a conventional motorcycle body structure, such as taught by Matsuto et al. One would be motivated to provide a motorcycle with a front wheel powered by a hub motor and the rear-wheel powered by an internal combustion engine to provide the advantage of allowing the front wheel to provide propulsive drive force when the rear wheel slips. Provide a drive unit in the front and rear would also provide balance weight distribution.

Yang as modified by Matsuto et al. disclose the claimed invention except for showing an electronic torque management unit for controlling operation of the two power trains separate of each other.

Chao et al. teach in Figures 1-11 and respective portions of the specification of: an electronic torque management unit in Figure 11. It would have been obvious to one having ordinary skill in the art at the time of invention to incorporate the torque management unit, as taught by Chao et al., in the invention taught by Yang as modified by Matsuto et al. to provide the advantage of optimizing power delivery. It would have been obvious to one having ordinary skill in the art at the time of invention that the method of powering the hybrid vehicle comprising the engine and motor would be

inherent from the structure in the invention taught by Yang and modified by Matsu et al. and Chao et al.

In regards to claims 7-8, 14-15 and 20-21 Chao et al. teach in Figure 11 and respective portions of the specification (Cols. 7-8) of electronic torque management unit able to control the motor separately, the second propulsive force separately (the engine in the invention as modified) or by a combination of the two propulsive forces.

In regards to claims 10-12, 16-18 and 23-25 Yang shows the rotor (3) consists of a phase windings (4) and the stator consists of the permanent magnet (22). It would have been obvious to one having ordinary skill in the art at the time of invention to have been obvious to one having ordinary skill in the art at the time of invention to have the rotor consists of permanent magnets and the stator to consist of phase windings, since such a modification would be a reversal of the working parts of motor and would be within the level of routine skill in the art. In regards to claims 11 and 17, see Figure 5 where the modified rotor with a permanent magnet would be alternating around the circumference of a drum. In regards to claims 12 and 18, Yang shows a battery charger circuit (41) connected with the stator and rotor.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,100,615 issued to Birkestrand teaches of a modular hub with an integrated motor.

U.S. Patent No. 6,663,524 issued to Gu et al. teaches of a hybrid power system.

U.S. Patent No. 5,450,915 issued to Li teaches of an electric motor positioned within a wheel.

U.S. Patent No. 6,833,642 issued to Hung teaches of a power generator for a vehicle.

U.S. Patent No. 6,155,367 issued to Alber teaches of a drive assist device.

U.S. Patent No. 5,662,187 issued to McGovern teaches of an electrical assist for a cycle.

U.S. Patent No. 3,893,533 issued to Tidwell teaches of a vehicle with front and rear power assists.

U.S. Patent No. 5,818,134 issued to Yang et al., U.S. Patent No. 4,346,777 issued to Restelli and U.S. Patent No. 6,398,683 issued to Fukuda all teach of other pertinent vehicle drive systems.

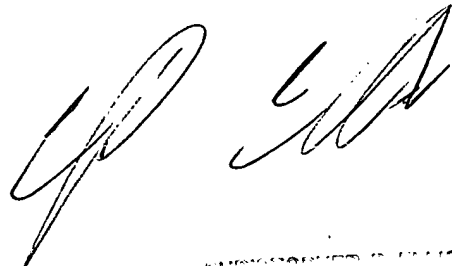
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Swenson whose telephone number is (571) 272-6699. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Swenson
Examiner
Art Unit 3618

B/S 11/10-08
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